

| Year | Percentage of Population Aged 65 and Over |
|------|---|
| 1950 | 7   |
| 1960 | 10  |
| 1970 | 9   |
| 1980 | 14  |
| 1990 | 16  |
| 2000 | 17  |
| 2010 | 18  |
| 2020 | 17.5                                      |

1. Water-redispersible granules

characterized in that they can be obtained by carrying out the following steps:

- 5        - an emulsion, in water, of at least one active substance, at least one nonionic surfactant, and at least one water-soluble or water-dispersible compound is prepared,

- the emulsion thus obtained is dried:

10 and characterized in that:

- 320 - the active substance is in the form of a hydrophobic liquid. *IN*

- the nonionic surfactant is chosen from polyoxyalkylenated derivatives

- 15 - the water-soluble or water-dispersible compound
- is:

- (i) at least one polymer obtained by polymerizing at least one monomer (I), at least one monomer (III) and optionally at least one monomer (II) or at least one monomer (I) and at least one monomer (II'), the said monomers corresponding to the following:

- 25                    o' (I)        : ethylenically unsaturated, linear or  
                         branched, aliphatic, cyclic or aromatic  
                         monocarboxylic or polycarboxylic acid, or  
                         anhydride.

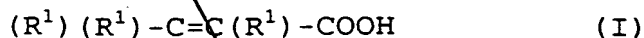
- o (II) : ethylenically unsaturated, linear or branched hydrocarbon monomer;
- o (II') :  $(R^2)(R^2)-C=CH_2$  (II'); in which formula the radicals  $R^2$ , which are identical or different, represent a hydrogen atom, a linear or branched aliphatic, or cyclic, saturated or ethylenically unsaturated,  $C_2-C_{10}$  radical, provided that the two radicals  $R^2$  are not hydrogen atoms;
- o (III): polyoxyalkylenated ester of an ethylenically unsaturated carboxylic acid;
- (ii) at least one polymer derived from the polymerization of at least one ethylenically unsaturated ~~linear or branched, aliphatic, cyclic or aromatic, monocarboxylic or polycarboxylic acid, or anhydride, monomer (I) and comprising, in addition, at least one saturated or unsaturated, aromatic or nonaromatic, hydrophobic  $C_4-C_{30}$  hydrocarbon graft, optionally interrupted by one or more heteroatoms;~~
- (iii) the polypeptides of natural or synthetic origin, comprising at least one saturated or unsaturated, aromatic or nonaromatic, hydrophobic  $C_4-C_{30}$  hydrocarbon graft, optionally interrupted by one or more heteroatoms;
- (iv) the highly depolymerized polysaccharides comprising at least one saturated or unsaturated,

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aromatic or nonaromatic, hydrophobic C<sub>4</sub>-C<sub>30</sub> hydrocarbon graft, optionally interrupted by one or more heteroatoms.

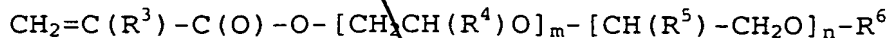
2. Granules according to the preceding  
5 claim, characterized in that the polymer (i) is derived  
from the polymerization:

0 of at least one monomer of formula (I):



10 in which formula the radicals R<sup>1</sup>, which are identical or different, represent a hydrogen atom, a C<sub>1</sub>-C<sub>10</sub> hydrocarbon radical optionally comprising a -COOH group, a -COOH group; and

o of at least one monomer of formula (III):



15 in which formula:

$R^3$  is a hydrogen atom or a methyl radical,

$R^4$  and  $R^5$ , which are identical or different,

represent a hydrogen atom or an alkyl radical  
containing from 1 to 4 carbon atoms.

20 R<sup>6</sup> is an alkyl, aryl, alkylaryl or arylalkyl radical containing from 1 to 30, preferably from 8 to 30 carbon atoms.

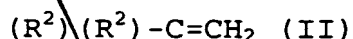
n is between 2 and 100, preferably between 6 and

100 and  $m$  is between 0 and 50, with the proviso

25        that n is greater than or equal to m and their sum  
is between 2 and 100, preferably between 6 and  
100;

and optionally:

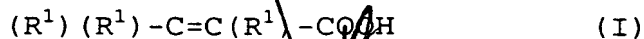
- o of at least one monomer of formula (II):



in which formula the radicals  $R^2$ , which are identical or different, represent a hydrogen atom, a linear or branched aliphatic, or cyclic,  $C_1$ - $C_{10}$  radical.

3. Granules according to claim 1, characterized in that the polymer (i) is derived from the polymerization:

- o of at least one monomer of formula (I):



in which formula the radicals  $R^1$ , which are identical or different, represent a hydrogen atom, a  $C_1$ - $C_{10}$  hydrocarbon radical optionally comprising a  $-COOH$  group, a  $-COOH$  group; and

- o of at least one monomer of formula (II'):

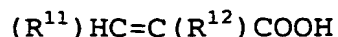


in which formula the radicals  $R^2$ , which are identical or different, represent a hydrogen atom, a linear or branched aliphatic, or cyclic, saturated or ethylenically unsaturated,  $C_2$ - $C_{10}$  radical, provided that the two radicals are not hydrogen atoms.

4. Granules according to any one of claims 1 to 3, characterized in that the monomer (I) of the polymer (i) or (ii) is a monocarboxylic or

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polycarboxylic acid, or a carboxylic anhydride,  
corresponding to the following formula:



in which formula:

- 5  $R^{11}$  represents a hydrogen atom, a  $-COOH$  group or a group  $-(CH_2)_n-COOH$  in which  $n$  is between 1 and 4, a  $C_1-C_4$  alkyl radical;  $R^{12}$  represents a hydrogen atom, a group  $-(CH_2)_m-COOH$  in which  $m$  is between 1 and 4, a  $C_1-C_4$  alkyl radical.

- 10 5. Granules according to the preceding claim, characterized in that the monomer (I) of the polymer (i) or (ii) is such that the radical  $R^{11}$  represents a hydrogen atom, a group  $-COOH$  or  $-(CH_2)-COOH$ , a methyl radical, and the radical  $R^{12}$  15 represents a hydrogen atom, a group  $-CH_2-COOH$  or a methyl radical.

6. Granules according to any one of claims 4 to 5, characterized in that the monomer (I) of the polymer (i) or (ii) is chosen from acrylic, 20 methacrylic, citraconic, maleic, fumaric, itaconic or crotonic acids or anhydrides.

7. Granules according to any one of the preceding claims, characterized in that the monomer (II) is chosen from ethylene, propylene, 1-butene, 25 isobutylene, n-1-pentene, 2-methyl-1-butene, n-1-hexene, 2-methyl-1-pentene, 4-methyl-1-pentene,

2-ethyl-1-butene, diisobutylene, 2-methyl-3,3-dimethyl-1-pentene.

8. Granules according to any one of the preceding claims, characterized in that the monomer  
5 (II') is chosen from 1-butene, isobutylene, n-1-pentene, 2-methyl-1-butene, n-1-hexene, 2-methyl-1-pentene, 4-methyl-1-pentene, 2-ethyl-1-butene, diisobutylene and 2-methyl-3,3-dimethyl-1-pentene.

9. Granules according to any one of the  
10 preceding claims, characterized in that the monomer (III) is such that  $R^6$  is an alkyl radical containing from 8 to 30 carbon atoms, a phenyl radical substituted with one to three 1-phenylethyl groups, or an alkylphenyl radical in which the alkyl radical contains  
15 from 8 to 16 carbon atoms.

10. Granules according to any one of the preceding claims, characterized in that the polymer (i) or (ii) may comprise, in addition, one or more units corresponding to monoethylenically unsaturated nonionic  
20 monomers (IV) other than the monomers (II) or (II').

11. Granules according to the preceding claim, characterized in that the monomer (IV) is chosen from:

o vinylaromatic monomers such as styrene,  
25 vinyltoluene,

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- o C<sub>1</sub>-C<sub>20</sub> alkyl esters of acids which are  
α-β-ethylenically unsaturated, such as methyl,  
ethyl or butyl acrylates or methacrylates,
  - o vinyl or allyl esters of acids which are  
5 α-β-ethylenically unsaturated, such as vinyl or  
allyl acetates or propionates,
  - o vinyl or vinylidene halides such as vinyl or  
vinylidene chloride,
  - o α-β-ethylenically unsaturated nitriles such as  
10 acrylonitrile,
  - o hydroxyalkyl esters of acids which are  
α-β-ethylenically unsaturated, such as  
hydroxyethyl or hydroxypropyl acrylates or  
methacrylates,
  - 15 o α-β-ethylenically unsaturated amides such as  
acrylamide or methacrylamide.

20 12. Granules according to any one of the  
preceding claims, characterized in that the graft is  
chosen from aliphatic, cyclic, aromatic, alkylaromatic  
and arylaliphatic radicals comprising 4 to 30 carbon  
atoms and which may be interrupted by one or more  
heteroatoms, preferably oxygen.

25 13. Granules according to any one of the  
preceding claims, characterized in that the polymer (i)  
is derived from the polymerization of maleic anhydride  
and diisobutylene.

14. Granules according to any one of the preceding claims, characterized in that the polypeptides (iii) are chosen from homopolymers and copolymers derived at least from aspartic and glutamic acids.

15. Granules according to any one of the preceding claims, characterized in that the polysaccharides (iv) are chosen from the highly depolymerized compounds obtained from dextran, starch, maltodextrin, xanthan gum and galactomannans, such as guar or carob.

16. Granules according to any one of the preceding claims, characterized in that the nonionic surfactant is chosen from:

- ethoxylated or ethoxy-propoxylated fatty alcohols
- ethoxylated or ethoxy-propoxylated triglycerides
- ethoxylated or ethoxy-propoxylated fatty acids
- ethoxylated or ethoxy-propoxylated sorbitan esters
- ethoxylated or ethoxy-propoxylated fatty amines
- ethoxylated or ethoxy-propoxylated di(1-phenyl-ethyl)phenols
- ethoxylated or ethoxy-propoxylated tri(1-phenyl-ethyl)phenols
- ethoxylated or ethoxy-propoxylated alkylphenols.

17. Granules according to any one of the preceding claims, characterized in that they may

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in addition, at least one  
nt.

18. Granules according to  
y claims, characterized in  
substance is between 40 and  
granule.

19. Granules according to  
y claims, characterized in  
surfactant and of water-so  
ble compound varies between  
a the granule.

20. Granules according to  
y claims, characterized in  
the concentrations between  
nt and the water-soluble or  
is between 50/50 and 90/10

21. Granules according to  
y claims, characterized in  
the concentrations between  
nt and the additional surfa

22. Granules according to  
y claims, characterized in  
which comprises 10 to 99%  
es, preferably 30 to 80% by

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24: Granules according to any one of  
claims 1 to 22, characterized in that spray-drying is  
carried out.

10                    26. Granules according to any one of the  
preceding claims, characterized in that the active  
substance is chosen from active substances which can be  
used in the food, detergency, cosmetics, paints, paper,  
agrochemical and metal-working or -deforming sectors.

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